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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	Priatna et al.
Serial No.	:	10/710,555
Filed	:	July 20, 2004
For	:	SYSTEM AND METHOD FOR MR DATA ACQUISITION WITH UNIFORM FAT SUPPRESSION
Group Art No.	:	3737
Examiner	:	John Fernando Ramirez

CERTIFICATION UNDER 37 CFR 1.8(a) and 1.10

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37 CFR 1.8(a) **37 CFR 1.10**

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Date: May 26, 2009 /Robyn L. Templin/
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RESPONSIVE TO THE NOTICE OF NON-COMPLIANT BRIEF MAILED MAY 5, 2009

Dear Sir:

Responsive to the Notice of Non-Compliant Brief mailed May, 5, 2009, Appellant request consideration of the remarks set forth below.

REMARKS

In the Notification of Non-Compliant Brief mailed May 5, 2009, the Patent Appeal Center Supervisor stated that the Appeal Brief filed on March 30, 2009 was non-compliant because the Summary of Claimed Subject Matter "must identify and map each independent claim separately on appeal to spec. by pg. and line number or paragraph number and/or drawings if any. (Claim 28)." *See Notification of Non-Compliant Appeal Brief*, May 5, 2009.

Accordingly, Appellant has amended Section 5 to identify and map claim 28 to the Specification by Paragraph number and drawing reference characters, as applicable.

The MPEP states:

> When the Office holds the brief to be defective solely due to appellant's failure to provide a summary of the claimed subject matter as required by 37 CFR 41.37(c)(1)(v), an entire new brief need not, and should not, be filed. Rather, a paper providing a summary of the claimed subject matter as required by 37 CFR 41.37(c)(1)(v) will suffice. *MPEP §1205.03.*

Thus, Appellant has only submitted herein amended Section 5 of the Appeal Brief.

Appellant appreciates consideration of these Amendments and Remarks and cordially invites the Examiner or the Patent Appeal Center Supervisor to call the undersigned, should any matters by considered unresolved.

Respectfully submitted,

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5. **SUMMARY OF CLAIMED SUBJECT MATTER**

Claim 1 calls for a method of medical imaging comprises the steps of zero-filling (70) at least a first portion of k-space (72), applying a fat suppression pulse (82) to suppress signals from fat in an ROI and acquiring MR data from the ROI prior to full fat recovery (84) with a 3D fast gradient echo sequence (FGRE). *Specification*, ¶¶[0030]-[0031]; FIG. 3. The method also comprises the steps of filling at least a second portion of k-space from the MR data and reconstructing a uniformly fat-suppressed medical image from the MR data having fat magnetization suppressed below a uniform threshold above which the fat magnetization is deemed to have fully recovered. *Id.* at ¶¶[0031], [0035]; FIG. 4.

Claim 18 calls for a magnetic resonance imaging (MRI) apparatus (10) to reconstruct MR images with substantially uniform fat suppression comprising an MRI system (10) having a plurality of gradient coils (50) positioned about the bore of a magnet (54) to impress a polarizing magnet field and an RF transceiver system (58) and an RF switch (62) controlled by a pulse module to transmit RF signals to an RF coil assembly (52) to acquire MR images. *Specification*, ¶¶[0023]-[0024]; FIG. 2. The MRI apparatus (10) also comprises a computer (20) programmed to define an ROI to be sampled for MR data acquisition and select a slice direction. *Id.* at ¶[0022]; FIG. 2. The computer (20) is further programmed to zero fill at least a portion of k-space in the slice direction, and apply a fat suppression pulse to suppress signals from fat in the ROI. *Id.* at ¶¶[0030]-[0031]. Also, the computer (20) is programmed to acquire MR data from the ROI prior to full fat recovery, and repeatedly apply the fat suppression pulse and acquire MR data to fill a remainder of k-space with less-than-full-fat-recovery. *Id.* at ¶¶[0031], [0035]; FIG. 4.

Claim 23 calls for a computer readable storage medium (28, 30) that includes a computer program stored thereon. *Specification*, ¶[0025]; FIG. 2. The computer readable storage medium (28, 30) represents a set of instructions that when executed by a computer (20) causes the computer (20) to define a slice direction and zero fill less than an entirety of k-space in the slice direction. *Id.* at ¶¶[0034]-[0035]. The set of

instructions further cause the computer (20) to apply a fat suppression pulse to suppress fat signals within an ROI, acquire MR data from the ROI prior to full recovery of magnetization of fat within the ROI, and repeat application of the fat suppression pulse and data acquisition to fill a remainder of the entirety of k-space with less-than-full-fat-recovery MR data. *Id*. at ¶¶[0030]-[0031], [0035]; FIGs. 3 & 4.

Claim 28 calls for an MR apparatus (10) comprising means for exciting nuclei to precess at a given Larmor frequency when subjected to a substantially uniform magnetic field. *Specification*, ¶[0022], [0025-28]; FIG. 2. A magnet assembly (52), pulse generator module (38), RF amplifier (60), and transceiver module (58) are disclosed as means for exciting nuclei by producing and amplifying pulses. *Id*. at ¶[0028]. The MR apparatus (10) also includes means for fastly acquiring 3D MR data only when fat magnetization is suppressed below a full-recovery threshold during breathhold moments. *Id*. at FIG. 2; ¶[0045]. As means for acquiring 3D MR data, a computer readable storage medium (28, 30) causes a computer (20) to apply a fat suppression pulse. *Id*.